

### REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Before addressing the specific ground of rejection raised in the present Office Action, applicants have made minor amendments to Claims 1 and 17 which are clerical in nature. Also, applicants have cancelled the non-elected claims, i.e., Claims 18-27, in order to expedite the allowance of the present application. Applicants respectfully submit that Claims 18-27 are being cancelled without prejudice or disclaimer.

In the present Office Action, Claims 1-17 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of Applicants' Admitted Prior Art ("AAPA"), U.S. Patent Application Publication No. 2002/0151170 A1 to Maex, et al. ("Maex, et al.") and U.S. Patent Application Publication No. 2004/0123922 A1 to Cabral, Jr., et al. ("Cabral, Jr., et al.").

Before discussing the reasons why the claimed methods are not rendered obvious, applicants observe that the Cabral, Jr., et al. reference should be disqualified as a reference in this case because it falls under the statute of 35 U.S.C. § 103(c), which states that:

"Subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

Applicants submit that the Cabral, Jr., et al. reference was applied by the Examiner as prior art under 35 U.S.C. § 103 via 35 U.S.C. § 102(e). Applicants note in this regard that MPEP § 706.02(k) states that:

"Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. § 103 via 35 U.S.C. § 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

This change to 35 U.S.C. § 103 is applicable to all utility, design, and plant applications filed on or after November 29, 1999 including continued prosecution applications (CPA) filed under 37 C.F.R. § 1.53(d). Applicants note that the present application was filed on September 15, 2003; therefore the present application is entitled to the above change in 35 U.S.C. § 103.

In view of this, and the fact the present application and Cabral, Jr., et al. "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person", the Cabral, Jr., et al. reference is disqualified as a reference under 35 U.S.C. § 103(c).

To evidence that the instant application and Cabral, Jr., et al. "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person", the assignment document of the present application (recordation date September 15, 2003 at Reel 014512, Frame 0315) was compared with the recorded assignment of Cabral, Jr., et al. (recordation date May 30, 2003 at Reel 014118, Frame 0965). In both instances, the inventors conveyed their entire interest to International Business Machines Corporation; therefore establishing common ownership between the instant application and Cabral, Jr., et al. In view of the above information, Cabral, Jr., et al. are disqualified as art therefore the instant § 103 rejection is based on the combined disclosures of AAPA and Maex, et al.

Applicants respectfully submit that the claimed methods of the present application, as recited in Claims 1-17, are not rendered obvious by the combined disclosures of AAPA and

Maex, et al. Specifically, AAPA and Maex, et al. do not teach or suggest a method of forming a solid solution of (Co, Ni) disilicide on a surface of a SiGe containing substrate wherein Ni is used to lower the formation temperature of the disilicide as compared to a Co layer not containing Ni.

AAPA begins with defining the use of silicides as contacts and indicating the best candidates for low resistivity and low contact resistance contacts. See paragraph 0002. Paragraph 0003 of AAPA indicates the problems with  $\text{TiSi}_2$ , leaving  $\text{NiSi}$  and  $\text{CoSi}_2$  as possible choices for future use. Paragraph 0004 of AAPA discusses the interest in using SiGe containing substrates and a need for a contact material for such a substrate. The remaining paragraphs of AAPA, i.e., paragraphs 0005-0009, describe the problem with forming  $\text{CoSi}_2$  contacts in the presence of Ge atoms. In particular,  $\text{CoSi}_2$  formation is delayed to higher temperatures in the presence of Ge atoms which temperatures are not compatible with existing CMOS processes.

Applicants respectfully submit that AAPA does not teach or suggest any method that can be used in reducing the formation temperature of  $\text{CoSi}_2$  on SiGe containing substrates, let alone the claimed method in which Ni is used in conjunction with Co to lower the silicide formation temperature of  $\text{CoSi}_2$ .

Maex, et al. do not alleviate the above defects with AAPA since the applied secondary reference does not teach or suggest a method of lowering the  $\text{CoSi}_2$  formation temperature on a SiGe containing substrate. Maex, et al, disclose a process of forming polycrystalline  $\text{CoSi}_2$  or another near noble metal silicide on a silicon substrate. Applicants observe that Maex, et al. do not teach or suggest replacing the disclosed silicon substrate with a SiGe containing substrate. As such, the claimed methods in which a  $\text{CoSi}_2$  contact including Ni is formed on a SiGe containing substrate at lower silicide formation temperatures is not obvious from the disclosure

of Maex, et al. The fact that Maex, et al. disclose that the presence of Ni accelerates the formation of  $\text{CoSi}_2$  on a silicon substrate does not lead to the conclusion that the same would occur on a SiGe containing substrate since the presence of Ge atoms typically inhibits silicide nucleation.

The § 103 rejection also fails because there is no motivation in the applied references which suggest modifying the disclosed methods to include the various elements recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Vaeck, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

The rejection under 35 U.S.C. § 103 has been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



Leslie S. Szivos  
Registration No. 39,394

SCULLY, SCOTT, MURPHY & PRESSER  
400 Garden City Plaza, Suite 300  
Garden City, New York 11530  
(516) 742-4343

LSS:gc